

## METHOD FOR DETERMINING ALLELES

### ABSTRACT OF THE DISCLOSURE

[0078] The present invention provides methods and kits for separating and identifying alleles, and thereby the haplotype, in genomic DNA samples. The method generally involves hybridizing primers specific to polymorphic sites within the alleles to the DNA sample, elongating the primers by one or more nucleic acids, separating the elongated primers and identifying the alleles utilizing the elongated primer. The method also allows for a ligation of two primers, their separation and subsequent use in identifying the targeted allele. The method further provides that another primer can be used as a blocking site for elongation of the first primer such that a stretch of DNA that includes a polymorphic site is replicated and identified. The unextended or extended primers can be labeled so that the primer can be easily separated and/or identified.